

## Patent Abstracts of Japan

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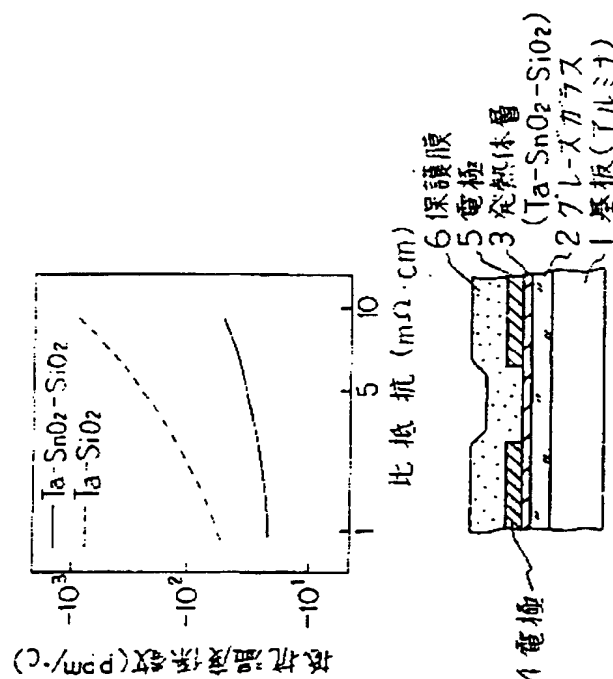
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TITLE : HEAT GENERATING RESISTOR FOR THERMAL HEAD



ABSTRACT : PURPOSE: To obtain a long life and low cost thermal head having large specific resistance, low in a temp. coefficient of resistance and having pulse resistance, by using a Ta-SnO<sub>2</sub>-SiO<sub>2</sub> membrane as a heat generating resistor.

CONSTITUTION: An insulating substrate 1 composed of alumina, a heat accumulating glazed glass layer 2, a heat generating resistor layer 3, electrodes 4, 5 composed of Cr, Cu or Au and a protective film composed of SiO<sub>2</sub>, Ta<sub>2</sub>O<sub>5</sub> or SiC are successively formed from below. Then, Ta-SiO<sub>2</sub> and Ta-SnO<sub>2</sub>-SiO<sub>2</sub> are used in the heat generating resistor 3. A specific resistance value is changed according to a sputtering condition but control is performed by the wt. mol.% of Ta, SiO<sub>2</sub> and SnO<sub>2</sub> and, with respect to Ta-SiO<sub>2</sub>, sputtering is performed under such a condition that Ta is set to 60~50%, the remainder SiO<sub>2</sub> to 40%, SnO<sub>2</sub> to 1~5% and the remainder to Ta on the basis of the wt. mol.% of a target. In the case of Ta-SiO<sub>2</sub>, a temp. coefficient of resistance is largely changed along with a rise in specific resistance but, when SnO<sub>2</sub> is added, the temp. coefficient of resistance is low and reduced in change.

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